

Helmholtz-Zentrum Dresden-Rossendorf e.V.



With cutting-edge research in the fields of ENERGY, HEALTH and MATTER, around 1,500 employees from more than 70 nations at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) are committed to mastering the great challenges facing society today. At the Helmholtz Institute Freiberg for Resource Technology (HIF), innovative technologies for the circular economy are developed to provide and use mineral and metal-bearing raw materials more efficiently and to recycle them in an environmentally friendly way. The Department of Process Metallurgy is looking for a PhD Student (f/m(d) Development of environmentally friendly flotation, NORM decontamination and faster pre-concentration using clean energy processes and hydrometallurgy.

PhD Student (f/m/d) Development of environmentally friendly flotation, NORM decontamination and faster pre-concentration using clean energy processes and hydrometallurgy

City: Freiberg; Starting date (earliest): 01/12/26; Duration: 30.11.2029;

Remuneration: TVöD-Bund: EG 13; Reference number: 2026/116; Closing date: 16/10/26

Tasks

- Development of environmentally friendly flotation strategies by designing and testing sustainable flotation processes for REE containing minerals in laboratory scale
- Investigating mineral processing strategies for early-stage NORM decontamination and handling of polymetallic ores in close collaboration with the partners
- Researching and developing high temperature pre-concentration methods for REE ores utilizing clean-energy based plasma techniques
- Presentation of results at national and international conferences and project meetings
- Follow-up with collaboration partners, thorough and robust scientific reporting, progress, and publications preparations for contributions in project REEHydroMin under BMFTR FONA EGA Roh cluster and beyond
- Follow-up with a systematic PhD and credit collection plan and project milestone plan

Requirements

- Completed university studies (Master/Diploma) in the field of Chemistry, Metallurgy, Chemical Engineering or related field
- Understanding of flotation principles and other mineral processing methods in liberation and separation
- Experience or knowledge in safe handling, preparation, and analysis of ore samples containing naturally occurring heavy elements
- Familiarity with high-temperature redox processes and plasma technologies
- Knowledge or experience on instrument-based chemical analysis for trace and

major elements (such as XRF, XRD, ICP-OES, ICP-MS, SEM, MLA)

- Knowledge or experience of hydrometallurgical processing is advantageous
- Trained in safe experimental laboratory practices and sample preparation
- Great teamwork skills with the ability to collaborate with international partners
- Flexible, hardworking and multitasking with a good academic track record
- Ability to combine multidisciplinary data into scientific conclusions
- Excellent writing and spoken English (good German language skills would be an advantage)
- Excellent ability in scientific writing and presentation in English

What we offer

- A vibrant research community in an open, diverse and international work environment
- Scientific excellence and extensive professional networking opportunities
- A structured PhD program with a comprehensive range of continuing education and networking opportunities - more information about the PhD program at the HZDR can be found [here](#)
- Salary and social benefits in accordance with the collective agreement for the public sector (TVöD-Bund) including 30 days of paid holiday leave, company pension scheme (VBL)
- Depending on the personal qualifications, the candidate may be classified in salary group 13 according to TVöD-Bund
- We support a good work-life balance with the possibility of part-time employment, mobile working and flexible working hours
- Numerous company health management offerings
- Employee discounts with well-known providers via the platform Corporate Benefits
- An employer subsidy for the "Deutschland-Ticket Jobticket"

Application

We look forward to receiving your application documents (including cover letter, CV, diplomas/transcripts, etc.), which you can submit via our online-application-system: <https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=78825>

More information at <https://stellenticket.de/207386/TUB/>

Offer visible until 16/10/26

